THE BEAN BAG

A newsletter to promote communication among research scientists concerned with the systematics of the Leguminosae/Fabaceae.

Number 20 November 1984

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From the Editor

The front page was revised by Karen Parker, botanical artist.

The Bean Bag (BB) is designed to promote communication among research scientists concerned with legume systematics. To achieve this goal the BB is issued in May and November of each year and features six columns: From the Editor, News (meetings, major events, announcements, etc.), Corrections for last Directory, New Readers, Gleanings, and Recent Legume Literature. Data in the Gleanings column are derived from questionnaire sheets which Readers complete and return. If you have news about legume systematics, send it to us for this column. The Recent Legume Literature column contains published research papers of specific interest to BB Readers. Recent is defined as one year old. We will rarely publish a citation that is more than one year old. Specific interest to BB Readers is defined as research papers of interest to a worldwide group of legume systematic botanists.

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SECOND INTERNATIONAL LEGUME CONFERENCE

The Conference, entitled Biology of the Leguminosae, will be held on 23-27 June 1986 at the Missouri Botanical Garden, St. Louis, Missouri, USA. The aim of the meeting is to discuss recent advances in our understanding of the biology of legumes, gained from both field and experimental research, and covering both pure and applied points of view. The multidisciplinary approach of this conference is designed to address a wide variety of research interests and to stimulate discussion among specialists. Scheduled topics include: Life history studies; tree architecture; evolution and biology of inflorescences and pollen; floral organogenesis; ecology; ecological biogeography; pollen-stigma-style interactions; structure and function of legume fruits and seeds; mycorrhizal relationships; cyanogenesis; evolution of symbiotic genes; biological implications of genome evolution; ant-domatia, aphid-legume, tick-legume, and bruchid-legume co-evolution; biological changes induced by domestication, computerized data bases and biological research; international legume data bases. For further information write to: Dr. James L. Zarucchi, Legume Conference Coordinator, Missouri Botanical Garden, P. O. Box 299, St. Louis, Missouri 63166, USA.

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LATHYRUS COLLOQUE

The meeting on Lathyrus will be held at Pau from the 9th to the 12th September 1985. The provisional program is:

Monday : Taxonomy, biosystematics, cytology, molecular genetics.
Tuesday : Genetics, cultivated species, plant population dynamics.
Wednesday : Chemical aspects, lathyrism plant insect relations.
Thursday : Visit of local stations of Lathyrus.

Housing in student hall residence will cost 40 FF per night. The prices for the hotel (room and breakfast, per day and for one person) is single room 171 FF, double room 107 FF. Typed abstract of papers or posters must be sent to the secretary before 1 Feb 85. Conference application forms must be sent before 1 Nov 84. Write to: Mrs. M. Delbos, Secretary Colloque Lathyrus, I.B.E.A.S., Casino Municipal, PARC Beaumont, 64000 PAU, France.

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OFFER FROM NEW READER

Dr. George A. White, Plant Introduction Office, Germplasm Resources Lab., USDA-ARS, Bldg. 001, Rm. 322, BARC-West, Beltsville, Maryland 20705 USA, has made a generous offer to Bean Bag readers. In exchange for your data about legume germplasm holdings and your legume plant exploration plans, he offers experimental quantities of a broad spectrum of legume seeds for research purposes. He also will help U.S. scientists bring introductions from foreign sources into the United States.

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INTERNATIONAL LEGUME DATABASE
by Frank Bisby

BISBY has taken a term's sabbatical leave from Southampton University to draw up plans for an International Legume Database that will provide a worldwide information service on the plant diversity of legumes. The majority of the information included will be for legume species, although there also will be information for other ranks such as genera and subspecies. For most species the plant diversity data will include scientific names (and synonyms), brief life-form data, and geographical distribution. Species in some tribes will receive more detailed coverage possibly including morphological descriptions, phytochemical data, ecological tolerances, plant use and agronomic data. The Database will be designed for use by a wide range of users in botany, agriculture, forestry, horticulture, medicine, conservation, archaeology, planning, trade, law, and administration.

Ideas under discussion are 1) that the database be produced by an international co-operative organization of small teams, some of which are already involved in databases for legumes and 2) that extensive use might be made of microcomputers.

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NEW WORLD LEGUMES

The Missouri Botanical Garden is developing a taxonomic/nomenclatural computer database which emphasizes new world taxa of Leguminosae.

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CORRECTIONS TO MAY 1984 DIRECTORY

ALBUQUERQUE Caixa Postal, 26992, 69.000 - Manaus (AM) Brazil

DELGADO-SALINAS, Herbario Nacional, Instituto de Biologia, UNAM, Dept. de Botanica, Apdo. Postal 70-367, Cd. Universitana, Coyoacan 04310 Mexico, D.F. Mexico

ELIAS Rancho Santa Ana Botanic Garden

KEIGHERY Western Australian Wildlife Research Centre, P.O. Box 51, Wanneroo, 6065, Australia

MANTOVANI, Depto de Botanica - ESALQ/USP, 13.400 - Piracicaba (SB), Brazil

MONTEIRO, Departamento de Botanica, I.B. - UNESP, C. Postal 178, 13500 Rio Claro - SP, Brazil

MOUSSAVI, P.O. Box 8141-11365

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NEW READERS
(Add to May 1984 Directory)

BOURGEOIS, Gilles; 741 Irvine St. # 4, Fredericton, N.B. Canada E3A 3E6

CANE, James; Dr.; Dept. Zoology-Entomology, Auburn University, Auburn, Alabama 36849 USA

DOYLE, Jeff J.,; Dr.; L. H. Bailey Hortorium, 467 Mann Library, Cornell University, Ithaca, New York 14853-0271, USA

ELGIN, James H.; Dr.; USDA, ARS, PGGI, Field Crops Laboratory, Rm. 335, Bldg. 001, BARC-West, Beltsville, Maryland 20705 USA

FAROOQUI, S. M.; Dr.; Department of Botany, Kakatiya University, Warangal-506 009 (A.P.), India

HIDALGO, Rigoberto; Genetic Resources Unit, CIAT, Apt. Agreo 67-13, Cali, Colombia

KUPICHA, Frances; Dr.; Axle Tree Cottage, Starvecrow Lane, Peasmarch, Rye, East Sussex, England TN31 6XL

IYER, V. N.; Dept. of Biology, Carleton University, Ottawa, Canada K1S 5B6

JORGE, Leon; Dr.; Ap. 480, San Pedro, Montes de Oca, Costa Rica

LIBRARY Plant Research, Bibliothèque de Recherches sur les Végétaux, Agriculture Canada, Edifice Wm. Saunders Bldg., Ottawa, Ontario, Canada K1A 0C6 Attn: Mrs. Eva Gavora

MBENKUM, Fonki, Lab 103, Department of Botany, The University of Reading, Reading RG6 2AS, England

MILTEN, Sue J.; P.O. Box 313, Knysna 6570, South Africa

MISSET, M. T.; Dr.; Lab. de Botanique Generale, 35042 Rennes, Cedex, France

NERO Director, Bio-Intensive Garden Research, 911 Kaupakalua Road, Haiku, Hawaii 96708 USA

RICO-ARCE, Lourdes; Instituito de Biologia, UNAM, Apdo. Postal 70-367, 04510 Mexico, D.F. Mexico

RUIEDIAZ, Rosa Aida, Ingeniera Forestal, Formosa, Argentina.

SCHREIBER, Annelis; Dr.; Botanische Staatssamming, Menzinger Strasse 67, D-8000, Munchen 19, German Federal Republic

SHIVASHANKAR, G.; Dr.; Agricultural College-Habbal, Bangalore 560024, India

THRO, Ann Marie; Dr.; Agronomy Department, Louisiana State University, Baton Rouge, Louisiana 70803 USA

WHITE, George; Dr.; USDA, ARS, PGGI, Plant Introduction Office, Bldg. 001, Rm. 322, BARC-West, Beltsville, Maryland 20705 USA

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GLEANINGS

BASSLER is working on Mimosoideae of Cuba.

BEAUCHAMP reports: "I have assumed the editorship of Herbertia, a journal devoted to the Amaryllidaceae and related plant groups. My interest in southern Californian legumes is still intact, but my time has been slightly reallocated."

BOURGEOIS (new Reader) is studying the mimosoids of South America and also Sesbania spp. He also is studying nitrogen fixing properties of legumes.

CANE (new Reader) is working on pollination ecologies of native North American and commercial Asian cultivars of Lespedeza, with an emphasis on native solitary bees as pollen vectors. He seeks information exchange regarding pollination of this genus or closely related genera.

DELBOS needs Lathyrus heterophyllus and offers L. latifolius, sylvestris, and tuberosus from France.

DELGADO-SALINAS will be preparing treatments for Flora Nicaragua of Lablab, Macroptilium, Oxyrrhynchus, Phaseolus, and Vigna and for Flora Mesoamericana treatments of Macroptilium, Phaseolus, and Vigna. Will complete revision of Phaseolus early 1985 and will annotate Phaseolus, New World Vigna and Macroptilium.

DOYLE (new Reader) continues his "molecular taxonomic" studies of Glycine and relatives. He needs viable seeds of Sinodolichos, Nogra, Pseudeminia, Pseudovigna, and Eminia.

FAROOQUI (new Reader) needs seeds of Rhynchosia, Adenanthera, and Podalyria.

FORTUNATO has begun work on Mimosa of South America.

GEESINK. See VIDAL.

GIBBS. See MONTEIRO.

GUNN has hired botanical artist Karen Parker to complete the plates for the caesalpinioid fruit-seed study, the second in a three volume series. The first volume, Technical Bulletin 1681, treating fruit and seeds of the Mimosoideae should be available for distribution during late fall, 1984. Plans to study seed morphology of taxa in tribes Coronilleae, Hedysareae, and Loteae. See also LERSTEN.

HANELT reports that the Gatersleben Institute conducted plant exploration in South Italy and the Georgian SSR for grain legume species (Vicia faba, Phaseolus spp., Pisum sativum, Lathyrus sativus, etc). He offers seeds from the Index Seminum of the Gatersleben Institute, and needs seeds of the dubious species Vicia pliniana (Taub.) Murat. described from Algeria.

HERINGER and J. E. Paula are working on Caesalpinia ferrea from State of Rio de Janeiro and from Atlantic Forest in State of Pernambuco. They suspect that the species manifests a different wood anatomy and different leaf structures in each State.

HERNANDEZ is collecting and conducting field observations of Calliandra spp. in Mexico, Nicaragua, Costa Rica, and Panama, during summer of 1984. He needs viable seeds of any species of Calliandra, and will identify Calliandra collections from Mexico and Central America.

HALE has begun a study of the effect of white clover mosaic virus on nodulation and nitrogen fixation in T. repens and the effect of halo blight on nodulation and nitrogen fixation in Phaseolus vulgaris.

HIDALGO (new Reader) is studying hybridization in Phaseolus. Need references to specific sites and/or seeds of primative landraces and wild populations of Phaseolus spp. in South America. Offers Phaseolus germplasm.

HUGHES is collecting germplasm of Gliricidia sepium through natural range in Tropical America. Offers seeds of various Central American tree legumes of economic importance.

IYER (new Reader) is interested in interaction between bacteria and legumes.

JANZEN is studying the overall biology of Ateleia herbert-smithii in Santa Rosa National Park, Costa Rica. Desperate for contact with people who have personal familiarity with this tree in other parts of its range. Offers legume seeds from lowland Costa Rica.

KARATELA needs literature on stomatogenesis.

KEIGHERY has prepared a manuscript on breeding systems of western Australian papilionoid legumes. He has data on self fertility of western Australian Acacia species.

KOEPPEN. See ZARRUCCHI.

KRETSCHMER is conducting an agronomic evaluation of about 150 accessions of Macroptilium atropurpureum, mostly from Mexico. Cultivated specimens are deposited at (MO). Cultivated seeds are available.

LASSEIGNE collected Caesalpinioideae of Veracruz, Mexico during August 1984 and is writing text for Caesalpinia, Cassia, Chamaecrista, Cynometra, Delonix, Dialium, Haematoxylum, Hymenea, Parkinsonia, Schizolobium, and Tamarindus. WUNDERLIN is contributing Bauhinia. Both will annotate appropriate herbarium material from Veracruz.

LAVIN is working on systematics of Coursetia and allied genera. He needs seeds and is willing to identify specimens.

LERSTEN and GUNN are studying the structure and distribution of the lens on the testa of taxa in the Mimosoideae and Caesalpinioideae. See also GUNN.

LIBRARIAN Wesley Wong, Economic Botany Library, Harvard University Herbarium, Divinity Ave., Cambridge, MA 02138 USA, needs abstracts on field beans #2 (1977), #6 (1981) and Tropical Grain Legume Bulletin #26. Offers many back numbers of Tropical Grain Legume Bulletin, except No. 26.

MBENKUM (new Reader) is studying Millettia from Lower Guinea (southern Nigeria, Cameroon, Gabon). Needs pollen, seeds, fruits, herbarium specimens.

MILLER needs vouchered wood specimens and offers tropical and temperate wood specimens.

MISSET (new Reader) is studying biosystematics of Ulex of Brittany, especially, pollen, caryology, and isozymes. Has completed with Gourret article in press in Jour. Cell Sci. on smooth cisternae in tapetal cells of U. europaeus.

MONTEIRO has started a phytogeographical study of woody legume species in the Brazilian cerrados with GIBBS. Needs seeds of South American Lupinus spp. and offers Sesbania punicea and S. virgata from Brazil.

MOTT continues his projects on Leucaena, Trifolium, and Neonotonia.

NEILL will complete Ph.D. dissertation at Washington University, December 1984: "Biosystematics and Reproductive Biology of Erythrina (Leguminosae: Papilionoideae." In 1985, as a post-doc at MO, will expand Erythrina research and field work to South America. Needs Erythrina seeds from South America, Africa, and Asia and offers Erythrina seeds from Mesoamerica.

NERO (new address) offers wing beans gathered from Kerala State, South India, April, 1984.

RODRIGUEZ PEREZ presented a paper on the white and yellow tepary bean at the Kew International Conference on Economic Plants for Arid Lands, 23-27 July 1984. Duarte Minguez and RODRIGUEZ PEREZ have finished a study about the effect of water salinity on Phaseolus acutifolius, tepary bean. Offers seeds of Cassia sturtii and Phaseolus acutifolius var. latifolius. Needs seeds of Prosopis tamarugo, P. chilensis and P. alba.

RUIZDIAZ (new Reader) is studying Prosopis of Argentina.

SCHRODER needs seeds of all species of Leucaena and offers Delonix regia, Cajanus cajan, Macroptilium atropurpureun.

SPRENT with others has a paper in press in New Phylogist on "New modulating legume trees from SE Brazil."

STRITCH wants to know which herbaria houses material labeled Wisteria koreana Uyeki.

THRO (new Reader) has begun a project on germplasm collection and evaluation of genetic variation between populations of native legumes of the Louisiana area, esp. Stylosanthes, Desmodium, and Centrosema.

VIDAL is working on the Revision of Papilionoideae for Flore du Cambodge, Laos, Viet Nam. All tribes (except Phaseoleae already published) by several authors: Nguyen Van Thuan, P. Dy Phon, C. Niyomdham, GEESINK, H. Ohashi.

WUNDERLIN. See LASSEIGNE.

YAKOVLEV is studying taxonomy and phytochemistry of the Russian species of Cytisus.

ZARRUCCHI (with KOEPPEN) is studying neotropical Dialium and Apuleia. Zarrucchi has initiated a study of Poecilanthe and collected legumes in southern Venezuela near the Cerro de la Neblina.

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RECENT LEGUME LITERATURE

[Ed. Note: Author names in all capital letters are Bean Bag readers. Their full names and addresses are in the May 1984 Directory. Correspondence about articles should be sent to them.]

Arrhenius, S. S. and LANGENHEIM. 1983. Inhibitory effects of Hymenaea and Copaifera leaf resins on an associated leaf fungus Pestalotia subcuticularis. Biochem. Syst. Ecol. 11: 361-366.

BARNEBY and GRIMES. 1984. Two leguminous forest trees new to the flora of French Guiana. Brittonia 37: 45-48.

BARNEBY and GRIMES. 1984. Two new mimosaceous trees from the American tropics. Brittonia 37:

BÄSSLER. 1982. Die Gattungen der Familie Mimosaceae in Cuba. Rev. Jard. Bot. Nac. Cuba. 3(3): 13-28.

Baudoin, J. P., E. Otoul, and A. Drion. 1983. Spectre des acides amines chez les hybrides interspecifiques avec Phaseolus lunatus L. et diverses especes sauveges apparentees. Bull. Rech. Agron. Gembloua 18(1): 45-59.

BOUSSAID. 1984. Hedysarum carnosum Desf. tissue culture: Morphogenesis of the new formed plants. Symposium Euro-arabe sur la Culture des Tissus Vegetaux, Tunis pp. 28-31.

Bridges, T. L. and L. H. Bragg. 1983. Seed coat comparisons of representatives of the subfamily Papilionoideae (Leguminosae). SEM 4: 1731-1737.

DELGADO-SALINAS and M. C. Johnston. 1984. A new species of Myrospermum (Leguminosae: Papilionoideae) from northeastern Mexico. Syst. Bot. 9: 356-358.

DEVINE. 1984. Genetics and breeding of nitrogen fixation, pp. 127-154. In M. Alexander. Biological Nitrogen Fixation. Plenum Publishing Corporation, New York.

DEVINE, Y. T. Kiang, and M. B. Gorman. 1984. Simultaneous genetic mapping of morphological and biochemical tracts in the soybean. Jour. Heredity 75: 311-312.

FAROOQUI, BAHADUR, and G. Narsaiah. 1983. Identity of the seeds of Rhynchosia phaseoloides DC. and Abrus precatorius L. (Fabaceae). Indian Bot. Reptr. 2(2): 153-155.

FERGUSON and J. J. Skvarla. 1983. The granular interstitium in the pollen of subfamily Papilionoideae: Leguminosae. Am. Jour. Bot. 70(9): 1401-1408.

FORTUNATO. 1983. Sinopsis de las especies argentinas del genero Rhynchosia. Parodiana 2(1): 25-58.

JOHNSON. 1983. Ecosystematics of Acanthoscelides of southern Mexico and Central America. Misc. Publ. Ent. Soc. Amer. 56: 1-370.

JOHNSON. 1983. Handbook on seed insects of Prosopis species: Ecology, control, and identification of seed-infesting insects of new world Prosopis (Leguminosae). Food and Agricultural Organization of United Nations. 55 pp. [Also in French and Spanish.]

Jones, D. G. and D. R. Davies. 1983. Temperate legumes: Physiology, genetics, and nodulation. 442 pp. Pitman Advanced Publishing Program, Boston, London, Melbourne. [USA address: Pitman Publishing Inc., 1020 Plain Street, Marshfield, Mass. 02050; England address: Pitman Books Limited, 128 Long Acre, London WC2E 9AN England. A product of an Association of Applied Biologists symposium which posed the question "Why is it that crops (legumes) which have the significant potential advantages of an ability to fix their own nitrogen, and a relatively high protein content are not more successful?"]

KEIGHERY. 1984. Phytogeography of Fabaceae of western Australia. Kings Park Research Notes 8: 7-23.

KEIGHERY. 1984. The naturalized Fabaceae of western Australia. Kings Park Research Notes 8: 24-36.

KUPICHA. 1983. The infrageneric structure of Lathyrus. Notes Roy. Bot. Gard. Edinb. 41: 209-244.

LACKEY. 1983. A review of generic concepts in American Phaseolinae (Fabaceae, Faboideae). Iselya 2: 21-64 + table.

LANGENHEIM and G. D. Hall. 1983. Sequiterpene deterrence of a leaf-tying lepidopteran Stenoma ferrocanella on Hymenaea stigonocarpa in Central Brazil. Biochem. Syst. Ecol. 11: 29-36.

LARSEN & LARSEN, and VIDAL. 1984. Leguminosae-Caesalpinioideae. Flora of Thailand 4(1): 1-129, drawn plates, 4 photographed plates.

Leelavathi, P., N. Ramayya. 1983. Proc. Indian Acad. Sci. Structure distribution and classification of plant trichomes in relation to taxonomy. 3. Papilionoideae. Plant Sci. 92 (5): 421-442. [42 spp.]

MISSET, J. P. Gourret and A. Huon. 1982. Le pollen d'Ulex L. (Papilionoideae); morphologie des grains et structure de l'exine. Pollen et Spores 24 (3-4): 369-395.

Olwell, M. 1982. A populational study of the exomorphic variations in Vicia minutiflora Dietr., including Vicia reverchonii Wats. (Leguminosae). Sida 9(3): 215-222.

Panigrahi, G. and S. C. Mishra. Proposal to amend Butea, conserved name, Fabaceae. Taxon 33(1): 119-120.

Perju, T. 1982. Seminiphagous species damaging plants of family Leguminosae. I. Bull. Inst. Agron. Cluj-Napoca Ser. Agr. 36: 85-92. [Romanian, English summary]

Pramanik, A. and THOTHATHRI. 1984. Nomenclatural notes on a few species of Camplyotropis (Fabaceae). Taxon 33: 316-319.

Quirk, J. T. and MILLER. 1983. Nonvestured pits in Koompassia Maingay (Leguminosae). IAWA Bull. N.S. 4(4): 191-195.

ROSENTHAL. 1983. A seed-eating beetle's adaptations to a poisonous seed (Caryedes brasiliensis, Dioclea megacarpa, a vinelike legume). Sci. Am. 249(5): 164-171.

ROSENTHAL and JANSEN. 1984. Arginase and L-canavanine metabolism by the bruchid beetle, Caryedes brasiliensis. Ent. Exp. and Appl. 34: 336-337.

Schetgens, T. M. P., G. Bakkeren, C. Van Dun, J. G. J. Hontelez, R. C. Van Den Box. 1984. Molecular cloning and functional characterization of rhizobium leguminosarum structural nifgenes by site-directed transposon mutagenesis and expression in Escherichia coli minicells [nitrogen fixation, Pisum sativum]. Jour. Mol. Appl. Genet. 2(4): 406-421.

Tarlakovskaya, A. M. 1983. The position of Vicia ervilia in the tribe Vicieae, Fabaceae according to the evidence of immunochemical analysis of seed proteins. Bot. Zh. (Leningrad) 68 (7): 944-945.

Thulin, M., GUINET, A. Hunde. 1981. Calliandra new-record Leguminosae in continental Africa. Nord. Jour. Bot. 1(1): 27-34.

Villiers, J-F. 1983. The genus Pseudoprosopis (Mimosaceae) in Africa. Bull. Jard. Bot. Natl. Belg. 53(3-4): pages unknown.

WEDER, M. P. Hegarty, M. Holzner, and M. L. Kern-Dirndorfer. 1983. Trypsin and chymotrypsin inhibitors in Leguminosae. VIII. Isolation and some properties of the principal inhibitor from lentils. Zeits. Lebensm. Unters. Forsch. 177(2): 109-113.

Zohary, M. and D. Heller. 1984. The genus Trifolium. Ahva Printing Press. Jerusalem. [606 pages, illustrated. Monograph of 240 species. Fully keyed.]

Zhukova, P. G. 1983. Chromosome numbers of some species of the family Fabaceae from northeast Asia. Bot. Zh. (Leningrad) 68 (7): 925-932. [58 spp.]